published papers on the Ceratopsia, he provided a fund of information in the shape of finished and unfinished drawings."

Mr. Hatcher considered the horned dinosaurs to be probably an exclusively American group, none of the European dinosaurs tentatively placed therein having any definite claim to such a position. In the case of a Wealden bone, described as a ceratopsian horn, the opinion is expressed that it is really a much weathered ungual phalange of a member of the sauropod group.

Leaving Mr. Hatcher's osteological section, the remainder of this notice may be devoted to brief mention of some of the interesting facts and speculations brought together in Mr. Lull's supplement.

The earliest known Ceratopsia occur in the Judith River beds, but of the ancestors of these latter we have no knowledge, possibly for the reason that they were inhabitants of dry land, instead of, like their successors, frequenters of swamps. The members of the group living at the Laramie epoch exhibit advance over their predecessors in the matter of bodily size, the preponderance of the supraorbital pair of horns over the single nasal one, the fuller development of the wonderful flange-like neck-shield of the skull, and the perfection of a peculiar type of dentition. Several attempts have been made to reproduce the external form of the horned dinosaurs, the most successful, in the opinion of Mr. Lull, being a painting and a statuette by Mr. C. R. Knight of Triceratops, the former of which is copied as a frontispiece to the volume before us, and is herewith reproduced.

That the horned dinosaurs were herbivorous is perfectly manifest; and it is suggested that while the edentulous, and doubtless horny, beak served for cropping succulent leaves and shoots, the teeth in the sides of the jaws chopped the food into short fragments, as they were not adapted for mastication. Swamps seem to have been the home of these rhinoceros-like dinosaurs; and this, it is suggested, may negative the idea that they were exterminated by the attacks of small predaceous mammals, since it has been considered that the latter were arboreal. If, however, mammals are derived from the theriodont reptiles, the theory that all the early forms were arboreal seems to require reconsideration.

Be this as it may, a more probable factor leading to the wane of the Ceratopsia was "changing climatic conditions and a contracting and draining of the swamp and delta regions caused by the orographic upheavals which occurred towards the close of the Cretaceous. The Ceratopsidæ and their nearest allies, the Trachodontidæ, both highly specialised plant-feeders, were unable to adapt themselves to a profoundly changed environment because of this very specialisation, and, as a consequence, perished."

The volume reflects the highest credit on all concerned in its production, and is an admirable example of the modern style of palæontological investigation, so intrinsically different in its picturesque speculation from the long series of dry details which alone formed the contents of works of this nature published a quarter of a century ago.

R. L.

NOTES.

THE death is announced of M. D. Clos, director of the Jardin des Plantes at Toulouse, and correspondant of the section of botany of the Paris Academy of Sciences.

PROF. L. H. BAILEY, of Cornell University, has accepted the chairmanship of the commission appointed by President Roosevelt to report upon the social and economic conditions of agricultural life.

A REUTER message from Berlin announces that the Academy of Sciences there has received a legacy of 30,000,000 marks (1,500,000*l.*), being the entire fortune of a millionaire named Samson, who recently died childless at Brussels.

AT Le Mans on Monday, Mr. Wilbur Wright travelled in his flying machine a distance of 48·12 kilometres in 1h. 7m. 11·4s. He afterwards performed a flight lasting 11m. 35·4s., with a passenger, at a speed of nearly one kilometre a minute.

THE Graham medal of the Royal Philosophical Society of Glasgow (awarded for original research in any branch of chemical science) is now open to competition. All information respecting the conditions of the award may be obtained from the secretary of the society.

THE quinquennial Riberi prize, of the value of 800*l.*, according to the *Athenæum*, has been awarded by the Academy of Turin to Prof. Bosco, of Turin, for his discovery of biological reaction, *i.e.* of a peculiar growth of mould on substances containing arsenic, tellurium, or selenium.

THE eighth International Congress of Hydrology, Climatology, Geology, and Physical Therapeutics is to be held at Algiers on April 4 to 10 next. All papers to be read at the meeting should be sent by, at latest, January 31. Full particulars of the congress can be obtained from M. Raynaud, 7 Place de la République, Algiers.

DR. SVEN HEDIN, in delivering a private lecture at Simla on his discoveries in Tibet, stated that although little is left in that country in the way of geographical discovery, in geology much remains to be done. Dr. Hedin is of opinion that from two to three years will be required to work up the mass of information collected by him relating to tracts hitherto unknown to Europeans.

THE Dove Marine Laboratory at Cullercoats was opened on Tuesday by the Duke of Northumberland. A polished granite tablet near the entrance bears the inscription:—"Erected A.D. 1908 by Wilfred H. Hudleston, M.A., F.R.S., for the furtherance of Marine Biology and as a Memorial of his Ancestress Eleanor Dove." The new building, which stands on the site of the old baths, contains an aquarium 30 feet by 23 feet, and there are eleven fish tanks. There is also a private aquarium, and provision is made in thirty-six tanks for the storing of materials for experimental work. A concrete tank holding 15,000 gallons of salt water will give a continual flow through the various tanks. The laboratory is in connection with Armstrong College, Newcastle-on-Tyne.

A RETURN issued by the Government of India shows that the total mortality amongst human beings reported to be due to snake-bite was 21,419 in 1907. The treatment of snake-bite by incision and application of permanganate of potash, as recommended by Sir Lauder Brunton (see NATURE, June 9, 1904, p. 141), continues, and lancets are distributed for this purpose, but the value of the results is discounted by the absence of identification of the snake that inflicted the bite. In Burmah nearly all the deaths occurred in paddy tracts where Russell's viper is particularly prevalent. Steps are being taken in that province to ensure a wide distribution of the Brunton lancets. It is reported that in the Pegu district six men and one buffalo bitten by Russell's vipers were operated on by headmen to whom lancets had been issued, and that all recovered but one man, who was unconscious before being treated. Eight cases are reported from the United Provinces of the successful use of Dr. Calmette's antivenene. In two of these cases the permanganate of potash treatment was also employed.

THE new session of the Royal Geographical Society will open on November 2, when Mr. D. G. Hogarth will give the first of a series of papers on the unexplored world, his subject being Western Asia. This will be followed by the undermentioned communications:—Some aspects of the River Paranà and its watershed, by Mr. W. S. Barclay; an account of his investigations on the Panama Canal, by Dr. Vaughan Cornish; a paper on his two expeditions into Bhutan, by Mr. J. Claude White; the Western Pacific, by Sir E. F. im Thurn; on a recent journey in North Central Arabia, by Captain S. S. Butler; South America and its Antarctic relations, by Prof. G. F. Scott Elliot; earthquakes and geography, by Mr. R. D. Oldham; and a paper on Australia, by Prof. J. W. Gregory, being the second of a series of lectures on the geographical conditions affecting the development of the British Empire; while Prof. W. M. Davis, of Harvard University, is to lecture in March on the Colorado Canyon and some of its lessons. Lectures may also be expected from Dr. Sven Hedin, Dr. M. A. Stein, Col. R. G. T. Bright (on the results of his expedition for the delimitation of the boundary between Uganda and the Congo Free State in the region of Mount Ruwenzori, Lakes Albert and Albert Edward, and the Semliki Valley), Lieut. A. Trolle (on the Danish expedition to north-east Greenland). On December 14 will be commemorated the jubilee of Speke's discovery of the Victoria Nyanza, and on that occasion Sir William Garstin is to read a paper on fifty years of Nile exploration and some of its results.

MR. GEORGE NICHOLSON, formerly curator of the Royal Gardens, Kew, whose death occurred on September 20 at Richmond, Surrey, as announced last week, was the son of a Ripon nurseryman. He was born in 1847, and after gaining experience in English and French nurseries was appointed a member of the Kew staff in 1873 as assistant to the curator, the second John Smith. He succeeded Smith as curator in 1886, and remained in this office until 1901, when he retired through enfeebled health. Nicholson was a prolific writer on horticultural matters, and his monographs of Quercus and Acer, published in the *Gardeners' Chronicle*, are testimonies to his conscientious and capable work. His memory, however, will live in the "Illustrated Dictionary of Gardening," published in four volumes, which he edited more than twenty years ago. Of all modern books, Nicholson's "Dictionary" has exerted the most influence in spreading horticultural knowledge. Nicholson was a first-rate gardener, an enthusiastic and critical British botanist, and a man who had studied chemistry very closely. He was greatly interested in natural history, particularly in insects, and contributed many papers to the *Kew Bulletin* on the fauna of the Kew Gardens. Nicholson was a Veitch medallist, and was amongst the first sixty who were awarded the medal of honour in horticulture by the Royal Horticultural Society in 1897. He was also an elected associate of the Linnean Society. It may be added that in 1901, when his retirement from the curatorship took place, Nicholson presented his excellent collection of British plants to the Aberdeen University.

No. 10 of vol. iv. of Circulars and Agricultural Journal of the Royal Botanic Gardens, Ceylon, is devoted to an account of the life-history and ravages of white ants, which are closely connected with botany through the cultivation by these insects of "fungus-gardens."

No. 10 of the "Fauna of New England" (Papers Boston Soc. Nat. Hist., vol. vii.) is devoted to the Pseudoscorpionida, Acarina, &c. New genera and species of local Thysanoptera form the subject of article 2, vol. viii., of the Bulletin of the Illinois State Laboratory of Natural History.

WE have to acknowledge the receipt of a copy of a suggestive historical address (published by G. Fischer, of Jena) entitled "Alte und Neue Naturgeschichte," delivered on July 30 by Prof. Ernst Haeckel at the meeting to celebrate the opening of a "Phyletische Museum" at Jena on the occasion of the 350th anniversary of the University.

JAPANESE locusts, by Messrs. S. Matsumura and T. Shiraki, and the earlier stages in the development of the vascular system of Ammocœtes, by Mr. S. Halta, form the subjects of vol. iii., part i., of the Journal of the College of Agriculture of Tohoku Imperial University, Sapporo, Japan.

A PRELIMINARY catalogue of the birds of Missouri, by Mr. Otto Widmann, forms the subject of vol. xvii., No. 1, of the Transactions of the Academy of Science of St. Louis. The subject is treated in considerable detail, with a preliminary account of the physiography of the district, but is, of course, mainly of local interest.

THE report of the Natal meeting (1907) of the South African Association has just reached us. In issuing the volume, the editorial committee regrets that it has been compelled to reduce many of the contributions to an abstract or a mere title, the reason being the lowness of the association's funds occasioned by the non-payment of their subscriptions by many of the members.

THE annual report of the acting superintendent of the Indian Museum, Industrial Section, Calcutta, for the year 1907–8 has reached us, from which we learn that the work of analysing samples has increased from about 100 samples per annum in 1897 to 340 in the period under review, which analyses are distributed as under:—natural exudations, 89; oils and oil-seeds, 66; dyes and tans, 35; fibres, 55; medicinal products, 25; food-stuffs, 58; minerals, 12.

A FINE example of an adult female *Mesoplodon bidens*, Sowerby, fully 16 feet long, was stranded on the West Sands, St. Andrews, on May 28. As one flipper seemed to be paralysed, it is possible that it had been struck by a spent shot or had collided with the ram or other part of a vessel of the fleet which was then in St. Andrews Bay. The specimen was at once secured by Dr. Tosh for the University Museum. Teeth were only visible in the mandible after maceration. The skeleton will be described by Sir William Turner.

THE valuable deodar-forests of the Simla area are suffering from a severe attack of four bark-boring beetles, two of which belong to the genus Scolytus, while a third, *Polygraphus minor*, is a species usually restricting its attentions to the blue pine, and the fourth is a buprestid. The last-named is new to Mr. E. P. Stebbing, who has contributed an illustrated account of the visitation to the Indian Forest Zoology Series.

IN the chief article in the August issue (part iv.) of the Journal of the Royal Microscopical Society, Mr. W. Wesché discusses the microscope as an aid to the study of biology in entomology, with special reference to the food of insects. According to the author, in the case of the large majority of insects the life-histories still remain unstudied, and the habits of many well-known species are based on conjecture. Details of the methods of work followed and some of the results obtained are given in the course of the paper.

THE littoral holothurians collected by the survey-ship *Investigator* form the subject of a memoir of Messrs. R. Koehler and C. Vaney in "Echinoderma of the Indian Museum." Out of forty-one species collected, fifteen are described as new. In the second number of Memoirs of the Indian Museum Captain R. E. Lloyd describes the anatomy of the huge phyllopod crustacean *Bathynomus giganteus*, of which the first known example was obtained in 1878 by the survey-ship *Blake*. The species is compared with the American representative of the genus, from which it is shown to differ in the number of basal plates.

To vol. ii., part i., of the Records of the Indian Museum Captain R. E. Lloyd contributes a paper on variation in an Indian species of the marine crustacean genus Squilla. The variation occurs in the number of "teeth" borne by the raptorial claw, and occurs in one particular race (or ? species) inhabiting a certain region of the Indian seas, in apparently deep water. The number of teeth may be as many as fifteen or eighteen, whereas the normal number is six or seven. In the opinion of the author, the facts in this case do not seem to be in favour of the "theory of gradual change" in organisms, and are put on record as a contribution to the study of animal variation available for comparison with other cases of a like nature.

THE Cretaceous fishes of Ceara, in Brazil, form the subject of a paper by Messrs. D. S. Jordan and J. C. Branner in vol. v., part i., of the quarterly issue of Smithsonian Miscellaneous Collections. The existence of fossil fishes in the Cretaceous deposits of this district has been known since the year 1841, when a collection was brought home by Mr. G. Gardner and submitted to Prof. L. Agassiz, by whom some were named and described. Since that date they have formed the subject of several papers, among these one by Dr. Smith Woodward in the Zoological Society's Proceedings for 1887 (quoted more than once in the article before us without any reference to the volume). In addition to the forms recognised by previous writers, Messrs. Jordan and Branner describe a new genus and species of Leptolepididæ, under the name of *Tharrkias araripis*, and likewise three other new species, referable to as many genera.

AN investigation into the germinative capacity of seeds of *Hevea brasiliensis*, carried out in Ceylon by Messrs. H. F. Macmillan and T. Petch, yielded the very definite result that in a few weeks the seeds lose their power of germinating. Seeds from untapped trees failed to germinate after being kept for three or four weeks. Seeds from trees that had been tapped for rubber showed a higher percentage in germination, and somewhat better keeping properties; otherwise they were smaller than the seeds from untapped trees, and would presumably yield less oil if they were crushed or extracted for that purpose. The experiments are described in the circulars (vol. iv., No. 11) issued from the Royal Botanic Gardens, Ceylon.

BOTANISTS who are interested in the "Kryptogamen Flora von Schlesien," originally edited by Dr. F. Cohn, will be glad to know that a final part, consisting of an index to the fungi, has just been issued. Dr. J. Schroeter undertook the portion dealing with the fungi, but died shortly before the last descriptive part was published. It was then intended to incorporate some of his notes in the next part; this project was, however, abandoned, and the index was compiled by Dr. A. Lingelsheim in its present form. Apart from the rest of the work, the index is useful, as it provides a list of host plants, cryptogamic as well as phanerogamic, upon which the fungi have been taken.

THE Rev. G. Henslow contributes one of his interesting historical accounts in connection with the cabbage group of plants to the new volume (xxxiv.) of the Royal Horticultural Society. It is remarked that Cato sang the praises of the cabbage and distinguished three kinds, while Pliny recognised six varieties. The author endeavours to trace modern races from the figures of the coleworts, forms of *Brassica oleracea*, inscribed in Gerard's Herbal dated 1597. Gerard refers the stock generally to *Brassica marina anglica* or English sea colewort. The kales are nearest to the suggested original type from which the true cabbage is derived by shedding of the lower stem leaves and aggregation of the leaves at the top; special development of buds in the lower leaves has led to the variety now represented by Brussels sprouts.

WE have been favoured with the report (No. 16) of the Danish Biological Station to the Board of Agriculture, in which Dr. C. H. Ostenfeld presents an account of the growth and distribution of the wrack-grass, *Zostera marina*, in Danish waters. The conditions necessary for the growth of Zostera are a salinity varying from ½ per cent. to 3 per cent., and a sufficiency of light such as can be obtained to a depth of six fathoms. The most luxurious development is attained on muddy or sandy bottoms in the sheltered waters of the fjords. The author subscribes to the opinion that the Zostera vegetation provides an important breeding ground for the nourishment of food-fishes.

IT is fitting that an early volume (part ii.) of the newly established *Indian Forest Records*, published by the Government of India, should be devoted to the consideration of compiling forest statistics with reference to the growth and increment of timber trees. Mr. A. M. F. Caccia, the officer in charge of forest working plans at the Imperial Research Institute, Dehra Dun, has collated existing data for the "sal" tree, *Shorea robusta*, to indicate how incomplete are present records, and what additional measurements are necessary to make the statistics as full as those compiled by forest research bureaux in Europe. With regard to the requirements of the "sal" plant, it is noted that it grows at elevations ranging from 150 feet to 6000 feet, where the annual rainfall varies between 40 inches and 180 inches, and demands, in addition, a loose, well-drained soil.

NOTIFICATION is given by the Board of Agriculture and Fisheries that the potato disease known as wart disease, cauliflower disease, or black scab, has been scheduled under the Destructive Insects and Pests Order of 1908. All occupiers of land on which the disease appears have to report the fact to the Board, from the secretary of which a leaflet describing the disease and suggesting preventive measures can be obtained on application. The Board of Agriculture and Fisheries has also issued a leaflet respecting grain weevils, in which brief descriptions are given of the nature of the harm done, the life-history and habits of the insect and its grub, and the known remedial measures. Copies can be obtained from the secretary.

THE Royal Commission on Sewage Disposal has recently issued its fifth report, and deals mainly with the relative merits of the various methods which are available for the purification of the sewage of towns. The work contains a number of appendices, and the general conclusion of the commissioners on the main subject is as follows:—"We are satisfied that it is practicable to purify the sewage of towns to any degree required, either by land treatment or by artificial filters, and that there is no essential difference between the two processes, for in each case the purification, so far as it is not mechanical, is chiefly effected by means of micro-organisms. The two main questions, therefore, to be considered in the case of a town proposing to adopt a system of sewage purification are, first, what degree of purification is required in the circumstances of that town and of the river or stream into which its liquid refuse is to be discharged; and, second, how the degree of purification can, in the particular case, be most economically obtained. The choice of a scheme must depend on a number of considerations which will be discussed later, but we may here state that we know of no case where the admixture of trade refuse with the sewage makes it impracticable to purify the sewage either upon land or by means of artificial processes, although in certain extreme cases special processes of preliminary treatment may be necessary."

IN the *Popular Science Monthly* for September, Mr. N. H. Winchell discusses the ethnology and traditions of the American Indian tribes, and specially of the so-called "mound-builders" of Minnesota. Modern research has established the enormous antiquity of these tribes in their present habitat. Thus the great variety of dialects, none of which can be connected with those of Europe or Asia, indicates either that the present population is the result of a number of successive migrations, or, which seems more probable, is the outcome of their long occupation of American soil. One fact is quite certain, that the mound-builders were the ancestors of some of the existing tribes. From a mass of confused legend it may be gathered that the practice of mound-building was confined to two stocks—the Algonquian and the Siouan—the former spreading over the north-eastern part of the United States and Canada, but with no representatives on the south-east Atlantic coast, the latter mainly confined to the great plains west of the Mississippi, this river apparently forming the boundary line between these two stocks. Whatever may be the value of Mr. Winchell's speculations regarding the post-Glacial movements of these races, he seems to be right as regards the sequence of tribal occupation in Minnesota. It begins with that of the Algonquian stock, a small area to the south-west being also held by the Ohio mound-builders. These were followed by Sioux fugitives from Ohio, to whom the majority of the mounds are attributed, to be followed, again, by an Ojibwa Algonquian incursion from the region of Lake Superior, these people dividing the State with the Sioux. This was the condition of things when the European appeared upon the stage. The value of this contribution to American ethnology would be greater if the essay had been accompanied by fuller reference to the authorities upon which it is based.

THE position of meteorology at the recent meeting of the British Association is again referred to in the September number of *Symons's Meteorological Magazine* (see NATURE, vol. lxxvi., p. 448). The writer states that from a meteorological point of view the meeting was the best since that of Southport in 1903, but, despite the efforts of the president of Section A (Dr. W. N. Shaw), no meeting ever showed more plainly the inferior position of meteorology as compared with other observational sciences. In the subsection of cosmical physics, meteorology and astronomy were mixed together in a way that was satisfactory to neither, and it was sometimes impossible to know at what hour the subsections would meet. The writer considers that a radical reform is necessary in the constitution of the association if it is to regain the high position it formerly held, and that meteorology will not be properly respected, or its true position understood, unless it is made at least a separate subsection, with a chairman of its own, and the hour of commencement of the meetings definitely announced.

WE have received from M. Charles Féry a pamphlet of 100 pages describing his exhibit of scientific apparatus at the Franco-British Exhibition. It is not by any means a maker's catalogue, but appears to consist of a collection of reprints of the original descriptions of the apparatus in the Proceedings of the Académie des Sciences, Société française de Physique, &c., some of which have been noticed in these columns. It will prove useful to those who are concerned with the scientific as distinct from the mere mechanical use of the apparatus, and it raises the question whether the publication of pamphlets of this type might not with advantage be taken up more extensively by instrument makers in this country.

IN order to assist makers of volumetric apparatus in establishing standards and perfecting methods of construction, the Bureau of Standards at Washington has for the last four years issued a circular containing specifications for and regulations for testing such apparatus. The third edition of this circular is embodied in an article in the May issue of the Bulletin of the bureau, on the testing of glass volumetric apparatus, by Messrs. N. S. Osborne and B. H. Veazey. In it the various specifications and rules for manipulation of the apparatus are discussed, and much information is given which bears directly on the construction, use, and testing of volumetric apparatus in general. As an example of the degree of accuracy expected, we note that for a litre flask the error should not exceed 0·3 cubic centimetre.

IN an article in the *Physikalische Zeitschrift* for September 1, Prof. H. A. Lorentz expresses with some reserve the belief that a satisfactory deduction of the law of radiation of a black body based on the electron theory, without the introduction of the so-called law of equipartition of energy, is impossible without serious modifications of the fundamental ideas of the theory itself. We must therefore accept Prof. Planck's theory of radiation as the only one tenable at the present time, and must wait for an explanation of the reason why the resonators of the theory do not appear to come within the province of the statistical mechanics of Gibbs. Prof. Lorentz points out a further difficulty of the electron theory of conduction of heat and electricity in metals as developed by Drude. According to this theory the oscillations of the free electrons within the metal account for the radiation of long waves by the metal, but are incapable of giving the short-wave radiation correctly, and no satisfactory explanation of this inconsistency has yet been given.

AN interesting contribution to the study of differences in the physiological behaviour of the right- and left-handed forms of optically active substances is contained in a short note by G. Bruni in the *Gazzetta Chimica Italiana* (vol. xxxviii., ii., p. 1). It is well known that the lower organisms, such as moulds, often show a striking preference for one of the two forms, assimilating or destroying it, whilst the other form is rejected. Whilst the same seems to be true in the case of the higher animals, the experiments as yet made are somewhat uncertain. In the present paper Mr. Bruni deals with the differences shown by the right- and left-handed forms of camphor. The latter was found in a large number of experiments to be about thirteen times as poisonous as the former when injected into the circulation of rabbits or guinea-pigs. The lævo form also differs strikingly from the dextro form in being practically tasteless; a somewhat similar difference has already been recorded for the two asparagines, the dextro form being sweet, the lævo form tasteless.

THE *Revue scientifique* for September 19 contains a lecture delivered by Sir William Ramsay to the French Association for the Advancement of Science during the meeting at Clermont-Ferrand. In this lecture a full account of the discovery of the inactive gases of the air is given in popular language. The relation of the radium emanation to these gases is also dealt with, allusion being made to the production of helium and neon from the emanation. A review of the periodic table shows that in two of the groups (6 and 7) inactive elements of the argon group with higher atomic weights than xenon may be expected, and details are given of the recent attempts made by Sir William Ramsay, in conjunction with Prof. Moore, to isolate these two elements. The less volatile residues arising from the fractional distillation of more than 100 tons of liquid air were placed at the disposal of the lecturer by M. Claude. Oxygen, nitrogen, hydrogen, hydrocarbons, carbon monoxide, and water vapour were removed in succession by the usual means, and the residue of inert gases cooled to −185° C., and submitted to systematic fractionation. The result of this series of operations was the relatively enormous quantity of 300 c.c. of xenon. This was liquefied at −130° C., and again submitted to a methodical fractionation. No trace of any foreign substance could be detected in this xenon, the spectrum of the last third of a cubic centimetre being absolutely identical with that of the bulk. This failure to isolate these heavy gaseous elements from the air may be due to their lack of stability; they may constitute the emanations of radium, thorium, and actinium.

FROM Messrs. Carl Zeiss, Jena, we have received a copy of the third edition of their "Astro. 8" catalogue, a handsomely illustrated volume which should be seen by all those desiring to purchase any kind of instrument or fitting for astronomical use. The present edition, which can be obtained gratis and post-free upon application, has been prepared with the view of meeting all the likely requirements of the scientific amateur astronomer, and includes telescopes and accessories up to an objective clear aperture of 7⅞ inches (200 mm.); for larger or special instruments the firm furnishes special estimates. There are several new constructions appearing for the first time in this edition. Among these we notice an ingenious relief system of the hour and declination axes, a changing appliance permitting any accessory to be fitted instantly to the breach of the telescope tube without screwing, and a new sun prism devised by Father A. Colzi, and consisting of a Herschel reflector and a Pickering double-prism; the second prism contains a fluid the depth of colour of which may be chosen to give an agreeable brightness of image. The astro-Tessar and U.V. objectives are also illustrated and quoted, and the catalogue concludes with illustrated specifications of variously sized domes. The London address of the firm is 29 Margaret Street, Regent Street, W.

MR. JOHN MURRAY has published a cheap edition (price 2*s*. 6*d*. net) in cloth of Darwin's "Insectivorous Plants."

MESSRS. JOHN WHELDON AND CO., of Great Queen Street, W.C., have just issued a useful catalogue of books dealing with physical sciences.

A NEW edition of their useful illustrated price-list of balances, scales and weights has been issued by Messrs. F. E. Becker and Co., of Hatton Wall, London, E.C. Every form of weighing instrument seems to be represented, and the catalogue includes particulars of a great variety of weights and accessories for use with balances.

MESSRS. JOHN J. GRIFFIN AND SONS, LTD., are prepared to send post free to chemists, teachers of chemistry and others applying for it, a very complete price-list of organic and inorganic chemicals and volumetric solutions manufactured by Mr. C. A. F. Kahlbaum, of Berlin. All the chemical preparations described are included in Messrs. Griffins' London stock.

IN the Journal of the Franklin Institute (vol. clxvi., No. 2) Mr. J. S. Hepburn gives the results of tests of the numerous modifications of the Kjeldahl method for the quantitative determination of nitrogen. The nitrogen content of antipyrin was determined, but in no case was the theoretical percentage of nitrogen obtained. The absolute method of Dumas, however, may be applied to antipyrin with success.

THE report of the Felsted School Scientific Society for the year 1907 provides abundant evidence that good work continues to be done in this school, by the masters and others, to encourage and maintain among the older boys a practical interest in the study of science. The work accomplished during the year is chronicled under botanical, chemical, geographical, and zoological sections. The report of the geographical section includes a fairly complete weather record for the year with which the report deals.

A NEW volume of "The Fauna of British India" has just been published by Messrs. Taylor and Francis. The volume deals with the families Testacellidæ and Zonitidæ of the Indian land mollusca. The late Dr. W. T. Blanford, F.R.S., left a short manuscript in which the shells were dealt with, chiefly from the conchological side, and this formed the foundation of the volume. Lieut.-Colonel Godwin-Austen, F.R.S., who has been responsible for the malacological part, and whose name appears with that of Dr. Blanford upon the title-page, contributes an introduction which should be the means of creating interest in the two important families of Indian land-shells described.

OUR ASTRONOMICAL COLUMN.

COMET MOREHOUSE.—The following set of elements and an ephemeris for comet 1908*c* appear in No. 138 of the Lick Observatory Bulletins. They have been computed by Messrs. Einarsson and Meyer, of the Berkeley Astronomical Department, from observations made at the Yerkes and Lick observatories, and subsequent observations show a satisfactory agreement between the observed and calculated positions. It will be noted that, according to these elements, perihelion will not take place until January 5, whilst the computed increase in brightness is not so rapid as given previously.

Elements.

$$T = 1909 \text{ January } 5{\cdot}702 \text{ G.M.T.}$$

$$\left.\begin{array}{l} \omega = 152^\circ\ \ 4'{\cdot}0 \\ \Omega = \ \ 90^\circ\ 20'{\cdot}5 \\ i = 135^\circ\ 56'{\cdot}2 \end{array}\right\} 1908{\cdot}0$$

$$q = 1{\cdot}1680$$